USAID-SARI/Energy Program
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NATIONAL SEMINAR ON ENERGY SERVICES COMPANY

Organized by

FEDERATION OF NEPALESE CHAMBERS OF COMMERCE AND INDUSTRY

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NEXANT SARI / Energy

AUGUST 30, 2002
HOTEL SOALTEE
KATHMANDU, NEPAL

SPONSORED BY:

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT

Nexant

South Asia Regional Initiative/Energy

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For

United States Agency for International Development

Under

South Asia Regional Initiative/Energy

Prepared by

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Contents

Section 1 Rationale and Objectives of the Seminar

The demand for electricity in Nepal and the SARI/Energy target countries is expected to grow at **6-8%** per annum due to rapid electrification, industrialization and the increasing demand for energy consuming appliances. Unless changes to end-use consumption patterns can be encouraged to increase end-use efficiency and conserve energy, it will increasingly become difficult to meet this rising demand.

Given the high-energy intensities and the high cost of supplying energy, increased energy efficiency and conservation in all sectors of the economy is the key to economic success in Region. To overcome some of the major barriers for increased energy efficiency and conservation such as lack of knowledge or trust in energy efficiency, funds required to meet initial costs, reliable equipment suppliers and competent technical personnel, etc, the use of Energy Service Companies (ESCO) to implement EE projects has increasingly found favor, especially in the industrial and large commercial sectors.

An Energy Services Company (ESCO) is a firm that provides energy efficiency and related services to end-use facility owners on a performance basis. ESCO's typically also finance the project, thus making the project very attractive to customers.

The concept of ESCO operations is however relatively new to Nepal and a one-day workshop on the basic concepts of ESCO operation and ESCO project financing was held on August 30, 2002 at the Soaltee Hotel in Kathmandu, Nepal. The seminar was organized by the Federation of Nepalese Chambers of Commerce and Industry (FNCCI) in association with the South Asia Region Initiative for Energy (SARI/Energy), a program funded by the United States Agency for International Development (USAID). The primary objectives of this workshop were to:

- Introduce the fundamental concepts of ESCO operations
- Discuss financing mechanisms and performance contracts
- Identify capacity building needs among stakeholders
- Develop a plan of action for continued technical assistance

Technical presentations were made by Nexant staff and case studies were presented by ESCOs from Nepal, India and Sri Lanka. The seminar was very successful with the participants engaging in energetic debate and discussion. A breakout session was organized to elicit the views and opinions of participants, and the outcome of this session was used to develop an action plan for future technical assistance under the SARI/Energy program.

This report summarizes the outcome from the breakout session and the proposed action plan. The agenda for the workshop and the presentations made at the workshop are provided in appendices to this document.

Section 2 Breakout Sessions

A breakout session was organized at the conclusion of the technical session. Participants were organized into four groups representing Policy Makers, Customers, Financiers and ESCO's. The groups were provided with a list of sample questions to stimulate debate, identify assistance needs and develop an action plan. The groups individually made presentations and these were debated by all participants.

The objectives of the breakout session were to:

- Brainstorm the key barriers and issues as they relate to the promotion of energy efficiency projects and the creation of a strong ESCO industry in Nepal
- Identify the support and resources required to develop an action plan and strategy to promote ESCOs and the rational use of energy
- Identify the support that USAID's SARI/Energy project or other donor agencies provide in the development of a strategy and action plan
- Prepare a brief 10 minute presentation to be presented to the group (identify the spokesperson for the group who will make the presentation)

The responses from the breakout sessions are summarized below.

1.1.1 CUSTOMER GROUP

In order to facilitate discussion and debate among participants representing customers, the following questions were posed during the breakout sessions to aid in the development of an action plan:

- What are the key barriers to the implementation of EE projects?
- Is there a need for any support from the Government or regulatory agencies? If so, what form of support would they like?
- Should the NEA promote ESCO's? What support should NEA provide?
- Are taxes and duties on energy efficient equipment a barrier to EE projects?
- Would the provision of a performance guarantee induce you to invest in EE projects?
- Are customers generally aware and knowledgeable of the benefits of EE projects?
- What support and resources would you need to examine the above issues?

Response of Customer Group

Key Barriers to the implementation of EE

- Lack of awareness
- Lack of commitment
- Access to finance

Support from Government and Nepal Electricity Authority

- Availability of soft loans and/or funds for EE
- Tax benefits for implementing EE projects
- Enactment of the EE Bill
- Standards and Labeling of products
- Subsidies from the Government to implement EE

Role of NEA

- NEA should promote Demand and Supply side Management and promote ESCOs since it directly impacts NEA's ability to meet power demand.
- NEA should consider using the ESCO principle to implement projects to reduce losses and improve distribution efficiency.
- NEA should make Energy Audits mandatory

Taxes and Duties

- Tax subsidies should be provided on EE products
- Depreciation benefits should be provided for EE investments and equipment
- Tax holidays should be given to energy efficient industries

Performance Guarantees

- No experience with performance guarantees
- Financing options should be made available

Resources and Support Required

- Donor agencies such as USAID, DANIDA, ADB, etc. should assist in financing and technical assistance
- Pilot projects should be implemented to demonstrate ESCO concept
- The FNCCI should create a EE forum to educate their members and promote EE
- The media should highlight benefits of EE
- Training programs should be conducted to educate customers
- Awards should be instituted to recognize facility owners that implement EE projects

1.1.2 FINANCIERS GROUP

In order to facilitate discussion and debate among participants representing financiers, the following questions were posed during the breakout sessions to aid in the development of an action plan:

- Are banks in Nepal familiar with EE projects and the ESCO concept? What steps should be taken to make financial institutions aware of this market opportunity?
- Do financial institutions have the capacity to evaluate the benefits of EE projects? If not, what steps would help overcome this barrier?
- Investments in EE projects are typically not very large. Do you foresee this as a barrier to financing EE projects?
- Would the availability of multilateral financing help overcome some of the barriers to EE project and ESCO financing?
- What steps can be taken to overcome the risk presented by not-so-creditworthy ESCOs and facility owners?
- Would the financial institutions be more comfortable making loans to projects implemented by ESCOs with performance guarantees?
- What support and resources would you need to examine the above issues?

Response of Financiers Group

Bankers' awareness of EE and ESCO projects

- Banks have limited knowledge of EE projects and the ESCO concept and there is a need to improve awareness. Some steps that could be taken to improve awareness include:

Capacity to evaluate EE projects

- While banks have the capability to conduct financial analysis of projects in general, they lack the specific technical expertise to evaluate EE projects. Some steps that could be taken to improve awareness include:

EE Financing

- The banks do not consider the relatively small investments in EE projects as a barrier to making EE loans.
- Creation of an EE fund would help. Banks could then co-finance large EE projects in conjunction with the EE fund.
- Customers and ESCOs will have to provide bank guarantees against the loans

- Performance contracts to implement EE projects would definitely raise confidence among the bankers and reduce the credit risk taken by the banks.

Resources and Support required

- Improved technical expertise among bankers, or availability of a pool of trained consultants who can aid the bank in EE project evaluation
- Establishment of an EE fund either by the government or by multilateral banks
- Legislation that promotes EE
- Networking with other banks in the region to share information about EE project financing
- Increase awareness among bankers' by inviting them to EE related events

1.1.3 ESCO GROUP

In order to facilitate discussion and debate among participants representing the ESCO community, the following questions were posed during the breakout sessions to aid in the development of an action plan:

- What are the key barriers to the development of ESCO operations?
- Do the ESCOs need any support from the Government or regulatory agencies? If so, what form of support would you like?
- Should the NEA promote ESCO's? What support should NEA provide?
- Is the cost of energy efficient equipment or the taxes and duties a barrier?
- Is financing the key barrier to ESCO operations? Would multilateral financing and revolving funds help overcome this barrier?
- Do you perceive the lack of experience with performance contracting (among both ESCOs and customers) as a barrier to ESCO operations?
- Do you foresee monitoring and verification as a potential barrier? What steps would be required to overcome this?
- Is customer awareness of energy efficiency a barrier?
- Would an ESCO association or a tie up with regional ESCO help?
- What support and resources would you need to examine the above issues?

Summary Response of ESCO Group

Key Barrier & Issues

- Lack of awareness
- Access to financing
- Trained technical personnel
- Lack of enabling policies

Actions needed

- Increase awareness among consumers/utility/financiers/HMG
- Establishment of an EE fund through local banks
- International donor agency funding or EE fund (Danida, SARI/Energy, etc.)
- Training programs for ESCOs and financiers
- Access to new technology/ software
- Incentives for EE project implementation (or penalties for non-compliance)
- Reduced duty on EE equipment and appliances

Support Required from SARI-Energy/USAID

- Expose ESCos, financial Institutions, policy makers and utility managers to latest technologies and developments in EE
- Conduct targeted Training programs/ Workshop/ Seminars
- Design funding mechanism appropriate to Nepal
- Access to international consultants and other resources
- Support development of Monitoring & Verification guidelines
- Support development of certification systems for EE products and services
- Support the formation of a National/ Regional ESCO Association
- Financial assistance for pilot ESCO projects

Support Required from HMG /Regulatory Agency

- 100% depreciation benefit for energy saving equipment and appliances
- VAT and Tax exemption on energy saving equipment and appliances
- Banking regulations that require financial institutions to give priority to investments in EE projects (similar to renewable energy projects)
- Establishment of R&D institutions to research and test EE technologies

Support Required from NEA

- Introduce demand-side management programs and use ESCO to implement projects
- Cost-based tariff structure that encourages implementation of EE
- Promotion of energy efficient equipment and appliances
- Integrate DSM impacts in an Integrated Resource Plan to meet energy demand
- Encourage participation of ESCos in loss reduction projects

1.1.4 POLICY/REGULATORY GROUP

In order to facilitate discussion and debate among participants representing the Policy community, the following questions were posed during the breakout sessions to aid in the development of an action plan:

- What are the key policy barriers to ESCO operations?
- Does the Government of Nepal promote efficient energy use in the economy?
- Do the electricity act and other regulations promote the efficient use of energy? Should such regulations be introduced?
- Are taxes and duties on energy efficient equipment a barrier to EE projects?
- Is the government willing to create a financing mechanism to promote EE and ESCO projects?
- Should the Government institute buildings codes and appliance labeling standards?
- Are energy consumption norms required for industries?
- Is there a national energy database?
- What support and resources would the Government need to examine the above issues?
- Which government departments or agencies should be involved in the development of policies that promote rational use of energy?

Summary Response of Policy/Regulatory Group

Key Barriers & Issues

- ESCO is a new concept in Nepal
- No legislation to promote EE
- Lack of awareness among customers and policy makers
- Lack of energy intensity norms

Financing

- Lack of low interest financing is a major obstacle
- Given the weak economic environment, industry is slow to make investments

Support and Resources Required

- Training programs, seminar and workshops to increase awareness of EE benefits
- Availability of low interest financing for EE projects
- Legislation to support EE implementation
- Development of model performance contracts
- Development of monitoring and verification guidelines

Section 3 Recommendations for SARI/Energy & Donor Community

The outcome from the presentations made after the breakout sessions were used to identify some of the key support and actions required to stimulate the growth of energy efficiency and the ESCO market. Obviously, a concerted and coordinated effort will be required on the part of various stakeholders including policy makers in HMG, the utility NEA, customer representative groups such as the FNCCI, and ESCOs to stimulate the EE and ESCO market.

Based on debate and discussions at the seminar, some of the key recommendations for continued technical assistance under the SARI/Energy programs include:

1. Conduct targeted training programs, workshops and seminars to build capability and expertise among policy makers, ESCOs, energy consultants and financiers.

   The lack of consultants specifically trained to identify, design and implement energy efficiency and energy conservation projects was voiced as a major obstacle by all participants. The ESCO industry in Nepal is at a nascent stage and there is a vital need to support its growth and conduct training programs, seminars and workshops specifically targeted at policy makers, bankers, ESCO and customers. While the FNCCI and other organizations representing customers should actively take up the role of educating their members, there is a need for targeted technical assistance to train policy makers, ESCOs and financiers.

2. Assist in the design of an EE fund to stimulate ESCO projects

   Given the economic environment in Nepal, high commercial rates of interest, and currency exchange rates, availability of finance is a key obstacle to implementing EE projects. The ESCO industry is just starting to get established and banks have practically no experience working with ESCOs to finance EE projects. There is thus a need to establish an EE fund that can finance ESCOs or their clients, and stimulate the market for EE services.

3. Support development of Performance Contracting and Monitoring & Verification guidelines.

   One of the key obstacles to ESCO operations is the lack of standardized and legally enforceable contracts. As evidenced from the discussions at the seminar, this is especially true of Nepal where the ESCO industry is at a nascent stage and ESCO, clients, and bankers have little or no experience with performance contracting. Standardized model performance contracts using the "guaranteed savings" approach can be developed for Nepal at relatively low cost by adapting the performance contracts developed for India and Sri Lanka to the Nepalese legal system of financing and contracting.

Similarly, Nepal has no experience with monitoring and verification protocols essential for ESCO operations. Again, they can be developed at relatively low cost by adapting the guidelines developed for India and Sri Lanka.

4. Support development of certification systems and standards and labeling for EE products and services.

   Standards and Labeling for EE equipment and appliances is a key policy mechanism to promote EE in the marketplace. This should be developed in conjunction with the EE legislation proposed to be developed for Nepal with support from Danida. Certification of EE service providers is another important policy element to build market confidence in a relatively new market service. The possibility of supporting the development of such systems should be closely examined and developed in concert with other donor agencies.

5. Support the formation of a National/ Regional ESCO Association.

   ESCO associations are vital to share experiences, lobby policymakers and financiers and create a market for EE and ESCO services. Given the relatively small size of the Nepal market, it may be too early to form an ESCO association in Nepal. However, support to the establishment of a regional ESCO association would greatly help ESCOs in all SARI/Energy target countries. SARI/Energy should consider supporting the establishment of such a regional ESCO association, development of a business plan for the association and identification of capacity building and resource needs.

6. Support the development of legislation that promotes EE.

   Danida is presently supporting the development of legislation in Nepal to promote EE. SARI/Energy should examine supporting this activity by providing targeted technical assistance to share the experiences of other countries in the region which have developed, or are in the process of developing, similar legislation.

7. Support peer exchanges among stakeholders in the region to share experiences with EE project financing and implementation.

   This is an essential activity that SARI/Energy is already supporting. Increased exchanges between ESCOs of the region and with other countries where ESCO are well established would support the maturing of the ESCO industry in the entire region. This should be done in conjunction with the development of a regional ESCO association.

8. Support the implementation of pilot projects to demonstrate the ESCO concept.

   SARI/Energy should consider providing technical assistance to support the implementation of pilot ESCO projects that will serve to demonstrate all aspects

of the ESCO concept including project identification, design, implementation, baselining, monitoring and verification, performance contracts and financing. The SARI/Energy role could be in bringing together the key stakeholders and providing technical assistance to enable the project to materialize.

Section 4 Recommendations for NEA, FNCCI & HMG

A concerted and coordinated effort will be required on the part of various stakeholders including policy makers in HMG, the utility NEA, and customer representative groups such as the FNCCI to stimulate the EE and ESCO market.

Based on debate and discussions at the seminar, some of the issues that the stakeholders should examine include the following:

Potential Role for HMG

- Enactment of the EE Bill or Legislation that promotes EE
- Establishment of Standards and Labeling for buildings, appliances and equipment
- Establishment of R&D institutions to research and test EE technologies
- Examine the possibility of introducing banking regulations that require financial institutions to give priority to investments in EE projects (similar to current regulations that require banks to give priority to renewable energy projects)
- Consider establishing an EE fund with support from multilateral banks and/or make available soft loans to stimulate the market for EE products and services
- Implement EE projects in public buildings through ESCOs and consider financial assistance for pilot projects to demonstrate the concept
- Examine providing depreciation and other tax benefits for EE investments and equipment

Potential Role for NEA

- Promote and implement Demand-side Management programs through ESCOs
- Consider using the ESCO principle to implement projects to reduce system losses and improve distribution efficiency.
- Implement a cost-based tariff structure that encourages implementation of EE
- Integrate DSM impacts in an Integrated Resource Plan to meet energy demand

Potential Role for FNCCI

- Support the formation of a National/ Regional ESCO Association
- Support development of Monitoring & Verification guidelines
- Support development of certification systems for EE products and services
- Support the development of standardized Performance Contracts to implement ESCO projects
- Conduct targeted training programs for policy makers, customers, ESCOs and financiers
- Act as a clearinghouse for information on ESCO and EE products
- Work with manufacturers of EE equipment and appliances to stimulate the market for EE products